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Research Article

A study to determine causes, prevalence and knowledge regarding consequences of substance abuse: a community based cross sectional study

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ABSTRACT

Background: Current tobacco use in any form is 34.6% of adults and in males it is 47.9% and the prevalence of tobacco smokers is 14% in adults with 24.3% in Males. 8 Use of smokeless tobacco was found to be 24.3% in males. The objectives of the study were to determine causes, prevalence and knowledge regarding consequences of substance abuse.
Methods: A community based cross sectional study was carried out. Data was recorded in a predesigned and pretested questionnaire as well as physical health consequences were enquired about. Only Men between 10-19 years were selected by house to house survey, and were explained about the protocol and purpose of the study. They were interviewed by interacting in local language.
Results: Majority belonged to 13-15 years. Majority of the respondents were unskilled employees (39.76). Majority of the respondents have completed secondary education. Among the respondents, majority belonged to upper middle class. Majority of the respondents belong to nuclear families. Major cause of initiation of substance abuse was Peer Pressure (52%), followed by feel of experimenting (20%). Overall 84% (206/244) were having knowledge regarding harmfulness of substance abuse.
Conclusions: Prevalence of substance abuse was found to be 66%. Majority that is 48.54% were consuming alcohol and 23.36% were smoking. Maximum that is 84% were having knowledge regarding harmfulness of substance abuse. Majority of skilled workers (67%) were addicted. Majority that is 87.66% of illiterates were addicted. 52% of subjects have started addiction due to peer pressure and 41% started only by experimenting.

Keywords: Substance use, Peer pressure, Alcohol, Smoking

INTRODUCTION

Substance is defined as "Any substance that, when taken in to the living organism, may modify one or more of its functions".[1] Drug abuse is defined as self-administration of drugs for non-medical reasons, in quantities and frequencies which may impair an individual's ability to function effectively and which may result in social, physical and emotional harm.[1]

Most commonly used substances in Indian communities are - tobacco – smoking/smoke less, alcohol, toddy, gutkha, paan, cigarettes.[1]

About 230 million people or 5 percent of the world's adult population are estimated to have used an illegal drug use at least once in 2010.[2] Alcohol and other drug users number about 27 million, which is 0.6% of the world's adult population.[2] Alcohol and other drug use determine economic and social development and contribute to crime, instability, insecurity and they also

cause major burden to society causing economic cost, health cost, crime related cost and losses in Productivity.[3]

In the world, prevalence was found to be 38.3%.[4] In India Kerala stands first followed by Maharashtra, Punjab, and Andhra Pradesh.4

In 2012, about 3.3 million deaths, or 5.9% of all global deaths, were attributable to alcohol consumption. Alcohol alone kills 0.2 million people each year.[5] Alcohol consumption also contributes to about 10 percent of the disease burden due to tuberculosis, epilepsy, hemorrhagic stroke and hypertensive heart disease in the world.[4]

India ranks 4th in the total tobacco consumption in the world. Chewing tobacco has been a tradition in India for centuries. Of the total amount of tobacco produced in the country, around 48% is in the form of chewing tobacco, 38% as bidis, and only 14% as cigarettes. Thus, bidis, snuff and chewing tobacco (such as gutka, khaini and zarda) form the bulk (86%) of India's total tobacco production.[5] Most people consume tobacco in the form of non-cigarette items such as hand-rolled bidis, chewing etc.[6]

The World Health Organization predicts that tobacco deaths in India may exceed 1.5 million annually by 2020. WHO estimated a prevalence of tobacco consumption of all forms were 65% among men, based on small scale studies conducted in the past.[7]

Current tobacco use in any form is 34.6% of adults and in males it is 47.9% and the prevalence of tobacco smokers is 14% in adults with 24.3 % in males.[8] Use of smokeless tobacco was found to be 24.3 % in males.[8]

59% of the Indian population abuse toddy. 40.8% people are multiple drinkers in addition to toddy, among which 49.2% are of 13-20 years age group. In Telangana dependence was seen in 4.1% and suffering was in 1% population.[9]

Present study was undertaken to study the prevalence of different types of substance abuse, to know the causes of substance abuse, to know the consequences of substance abuse, to compare the knowledge regarding the consequences of substance abuse.

METHODS

Present study is a Community based cross sectional study was carried out in the Medicine department of Malla Reddy hospital with 244 study population.

Sample size calculation- $N = 4pq/L^2$.

Prevalence of substance abuse was taken as 32.7 and with allowable error of 19% and confidence interval of 95%, the calculated sample size is 228, a non response rate of 6% was added giving the sample size of 244.[10]

Data collection tool

- A Predesigned and pretested questionnaire which include Identification data; Socio demographic profile; Practice of substance abuse; Causes of substance abuse; Causes of initiation of substance abuse[1,9]

Psychological issues, medical issues, substance abuse as coping mechanisms, family factors, alcohol and family celebrations, Social and environmental factors relationship issues, abuse, peer pressure, experimenting, life stresses, media influence trauma, academic failure.

Knowledge regarding consequences of substance abuse[1,11]

To know the consequences of substance abuse, the proforma was divided in to Physical Health Consequences, Mental Health Consequences and Social Impact and the data was collected based on the questions in the proforma as follows

Physical health consequences enquired about:

- Lungs – Lung cancer, chronic obstructive pulmonary disease, Increased severity Asthma, Increased risk of developing various respiratory infections,
- Heart – Coronary heart disease, Angina pectoris, Heart attack, Increased risk of repeat heart attack, arrhythmia, aortic aneurism cardiomyopathy.
- Blood vessels – Peripheral vascular disease, Thromboanginitis obliterans
- Skin- Early wrinkling, Finger nail discoloration, psoriasis, palmoplantar pustulosis
- Cancer- Lung cancer, oral cancer, Bladder cancer, Cervical etc.
- Bones – Osteoporosis, osteoarthritis, delayed fracture healing.
- Reproduction- Miscarriage, Infertility, Impotence.
- Brain – TIA, Stroke, sclerosis.
- Mental health consequences [11]
- Alcohol dependence syndrome, Suicidal ideation, Depression, Anxiety, Decrease in academics.
- Social Impact [11]
- Unemployment, Physical violence, Domestic violence, reduced economy.

Inclusion criteria: Adult men between 10-19 years

Data was collected by house to house survey. Only Men between 10-19 years were selected by house to house survey, and were explained about the protocol and purpose of the study. They were interviewed by interacting in local language.

After interview, the doubts of the participants were cleared and imparted correct knowledge regarding harmfulness and consequences of substance abuse.

The filled questionnaire with ticked answers were collected and then the collected data was entered on Microsoft excel.

After estimating the prevalence of substance abuse, the data was divided in to two groups, one group with addiction of substance abuse and the other without addiction.

Then the two groups were compared and analysed with respect to socio demographic profile, Knowledge regarding causes and consequences.

RESULTS

Table 1: Age wise distribution of the respondents.

Age	Substance abuse Yes	Substance abuse No
	Frequency (%)	Frequency (%)
10-12	45(27.78)	31 (37.80)
13-15	54(33.34)	30 (36.6)
16-17	34(21)	11 (13.42)
18-19	29(17.9)	10(12.2)
Total	162(100)	82(100)

Table 2: Distribution of respondents according to occupation.

Occupation	Addiction No. (%)	No addiction No. (%)	Total No. (%)
Professionals	14 (56)	11 (44)	25 (10.24)
Skilled	65 (53)	32 (47)	34 (13.94)
Unskilled	53 (67)	14 (33)	97 (39.76)
Unemployed	5 (79)	3 (21)	67 (27.45)
Business	18 (62)	16 (38)	8 (3.28)
Students	7 (53)	6 (47)	13 (5.33)
Total	162	82	244 (100)

Chi square =0.081; P>0.05; Not significant

66% (162/244) of the subjects were having the habit of taking some or the other type of substance abuse. Majority that is 46% (112/162) were taking, more than one type of substance abuse.

Different types of use of substance abuse were Alcohol (48.54%), Cigarette smoking (23.36%), Tobacco (8.76%), Pan (3.65%), Toddy (6.93%), Guthka (6.93%), and Khaini (2.2%) respectively.

Majority belonged to 13-15 years, followed by 10-12 years age group.

Majority of the respondents were unskilled employees (39.76), and then followed by Unemployed (27.45), Skilled, Professionals, Students and Business. Occupation of the respondents is not significantly different in both the groups (Table 2).

Table 3: Education among the respondents.

Education	Addiction	No addiction	Total
Primary	13	10	23(9.43)
Secondary	44	31	75(30.74)
Intermediate	20	11	31(12.71)
Illiterate	52	8	60(24.6)
Graduation	33	21	54(22.13)
Total	162	82	244(100)

CHI square =14.84; p<0.05; highly significant

Majority of the respondents have completed secondary education, followed by illiterates and then Graduates. Education of the respondents who are not having substance abuse is significantly better than the persons who are taking substance abuse.

Table 4: Socio economic status according to B. G. Prasad classification.

Income	Substance use Yes	Substance use No	Total
Upper class	35	26	61(25%)
Upper middle class	49	28	77(31.55)
Middle class	35	17	52(21.32)
Lower middle class	36	11	47(19.26)
Lower class	7	0	7(2.87)
Total	162	82	244(100)

Among our respondents, majority belonged to upper middle class, followed by upper class and then middle class. Socio economic status of the respondents is not significantly different in both the groups.

Majority of the respondents belong to nuclear families, and 80.24% of the respondents in nuclear families have habit of substance abuse and habit of substance abuse is significant more in nuclear families compared to joint family (Table 5).

Major cause of initiation of substance abuse was peer pressure (52%), next followed by feel of experimenting (20%), then media influence and life stress (5%).

Overall 84% (206/244) were having knowledge regarding harmfulness of substance abuse, 80.24% (130/162) of those who have the habit of substance abuse and 92.7% (76/82) of those who were not having habit are having the knowledge.

Table 5: Distribution of respondents according to type of family.

Type of family	Substance Use Yes	Substance Use No	Total
Nuclear	130 (80.24)	32 (19.75)	162 (66.4)
Joint	28 (36.37)	49 (63.63)	77 (32)
Extended nuclear	4 (80)	1 (20)	5 (2)
Total	162	82	244(100)

Chi square =45.47; P<0.05; highly significant

Table 6: Cause of initiation of substance abuse among those who are using substance.

Cause for initiation	Substance Use	
	Frequency	%
Family problems	17	8
Peer pressure	109	52
Trauma	13	6
Media influence	11	5
Experimenting	41	20
Academic failure	3	1.5
Love failure	3	1.5
Ancestors	1	1
Life stress	11	5
Total	209	100

Table 7: Knowledge regarding health Problems due to substance abuse.

	Substance use Yes (%)	Substance use No (%)
Heart	44 (27.16)	36 (43.9)
Skin	2 (1.23)	4 (4.88)
Lung	73 (45.06)	54 (65.86)
Cancer	80 (49.38)	49 (59.76)
Bones	14 (8.64)	9 (10.98)
Liver	73 (45.06)	44 (53.66)
Kidney	39 (24.07)	22 (26.83)
Reproduction	7 (4.32)	7 (8.53)
Brain	4 (2.47)	4 (4.88)
Others*	12 (7.41)	6 (7.32)
Total	348	82

*cataract, Macular degeneration, Snoring, Periodontal diseases, stomach and duodenal ulcers, Crohns disease, impaired immunity; Chi square=5.059; P<0.05; Not significant

There is no significant difference in knowledge regarding consequences of substance abuse between those who are taking substance and those who are not taking substance.

47% of the respondents with substance abuse and 95.12% without substance abuse knew that there will be mental health problems on intake of substance abuse and the difference is highly significant (Chi square-53.216, P <0.05).

85.8% of the respondents with substance abuse and 28.05% of the respondents without substance abuse has knowledge that there will be social problems with substance abuse is and the difference is highly significant (Chi square- 103.41, P <0.005).

DISCUSSION

The overall prevalence of substance abuse among urban health centre field practice area was found to be 66%. The prevalence was lesser than the prevalence found in Bhubaneswar (74.03%) and higher than that found in Karimnagar district (32.7%) by Kokiwar PR et al and AA Malik et al (35.4%) in Bari Iman.[11-13]

Alcohol intake was high showing prevalence of 48.54%, followed by cigarette smoking (23.36%), then tobacco (8.76%), Pan (3.65%), Toddy (6.93%), Guthka (6.93%), Khaini (2.2%) respectively where as in a study in Mumbai by Din Prakash Ranjan et al, smokeless tobacco (43.7%) intake was more prevalent, then followed by smoking tobacco (21%), followed by Alcohol (12.2%).[14] In another study by GK Padhy et al, cigarette smoking was found to be most common type of substance abuse (72.84%), followed by Alcohol (68.25%), Guthka (24.58%) and others.[12]

Alcohol intake in our study is quite high, might be because of lack of knowledge regarding consequences, easy availability and accessibility.

Only 6.93% of substance abusers took Guthka which is quite less compared to the study of D N Sinha and P C Gupta where prevalence was reported to be 43%.[15]

Prevalence rate of substance abuse is more in the age group of 13-15 years, (33.34%), followed by 27.78% at 10-12 years of age, then followed by 16-17 years (21%). In the study conducted by GK Padhey et al in medical college students the Prevalence was more in the age group of 17-19 years (44.47%), followed by 15-18 yrs (38%).[12] Occupation was not associated with prevalence of substance abuse, showing that occupation does not contribute to substance abuse similar to Kokiwar PR et al study.[10]

There is significant association between substance abuse and education with P <0.05 which is similar to Kokiwar PR et al study.[10]

There was no significant association between social class and substance abuse in the study, similar findings was reported by Kokiwar et al, Kohler et al.[10,16] However Neufeld et al observed that prevalence of substance abuse was more common in lower class.[17]

Major cause of initiation of substance abuse was Peer Pressure (52%), next followed by feel of experimenting (20%), then media influence and life stress (5%), and then followed by academic failure, love failure, ancestors etc.

Similar to our findings Peer pressure (52.9%) was major reason, then followed by enjoyment (21.1%) in Kokiwar

PR et al, where as in a study done by GK Padhey et al academic pressure (69%) was reported as the major cause.[10,12] The difference in cause may be due to different study settings and environment.

Regarding knowledge on consequences of substance abuse 45.06% knew liver will be affected due to substance abuse compared to 62.5% in Dhaka by a study done by Zaman MS et al, 45.06% knew that lung will be affected in the study compared to only few that is 3.3% in Dhaka, Only 2.47% in the present study knew that Brain will be affected where as 34.2% of respondents in Dhaka knew that Brain will be affected.[18] In the present study 27.16% knew that heart will be affected due to intake of substances and only 17.5% in Dhaka study.[18]

In the present study 85.8% knew that social problems occur after substance abuse where as in a study done in Dhaka around 13.3%-52.5% knew that there are social consequences after intake of substance abuse.[18] 47% in the present study knew that there will be Mental health consequences after substance abuse similar to Zaman MS et al study where 7.5%- 55.8% had knowledge.[18]

CONCLUSION

Prevalence of substance abuse was found to be 66%. Majority that is 48.54% were consuming alcohol and 23.36% were smoking. Maximum that is 84% were having knowledge regarding harmfulness of substance abuse. Majority of skilled workers (67%) were addicted. Majority that is 87.66% of Illiterates were addicted. 52% of subjects have started Addiction due to peer pressure and 41% started only by experimenting.

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